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| AMIN. TUROCY & CALVIN, LLP | HICKS, MICHAEL J |
| 24TH FLOOR, NATIONAL CITY CENTER | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket1@thepatentattorneys.com
hholmes@thepatentattorneys.com
osteuball@thepatentattorneys.com

| | Application No. | Applicant(s) |
| :--- | :--- | :--- |
| | 10/600,797 | BRILL, ERIC D. |
| **Office Action Summary** | Examiner | Art Unit | |
| | Michael J. Hicks | 2165 | |

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>29 October 2007</u>.

2a)☐ This action is **FINAL**.          2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) <u>1-40,42 and 43</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-40,42 and 43</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>20 June 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

## DETAILED ACTION

1.      Claims 1-40 and 42-43 Pending.

        Claim 41 Canceled.


### *Response to Arguments*

2.      Applicant's arguments, see response, filed 10/29/2007, with respect to the

rejection(s) of claim(s) 1-40 and 42 under USC 102 and USC 103 have been fully

considered and are persuasive.  Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made in view of

Lawrence in view of Pazzani et al ("Learning and Revising User Profiles: The Identification of

Interesting Web Sites", Machine Learning 27, Pages 313-331, 1997, Kluwer Academic Publishers and

referred to hereinafter as Pazzani).


3.      Applicant's arguments filed 10/29/2007 regarding Claim 43 have been fully

considered but they are not persuasive. Note that applicant's arguments concerning

Claim 43 argue allowability based on the inclusion of limitations reciting a first data set

categorized as relevant, and a second data set categorized an non-relevant.  As claim

43 does not include this, or any other limitation argued in section II of applicants

remarks dated 10/29/2007, the rejection of Claim 43 will be updated to reflect the

changes made to the claim and maintained.

## *Claim Rejections - 35 USC § 101*

4.    35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-21 and 43 rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.


As per Claims 1-21 and 43, the claims lack the necessary physical articles or

objects to constitute a machine or a manufacture within the meaning of 35 USC 101.

They are clearly not a series of steps or acts to be a process nor are they a combination

of chemical compounds to be a composition of matter. As such, they fail to fall within a

statutory category. They are, at best, functional descriptive material *per se.*

Descriptive material can be characterized as either "functional descriptive

material" or "nonfunctional descriptive material." Both types of "descriptive material" are

nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d

at 1759. When <u>functional</u> descriptive material is recorded on some computer-readable

medium, it becomes structurally and functionally interrelated to the medium and will be

statutory in most cases since use of technology permits the function of the descriptive

material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d

1031, 1035 (Fed. Cir. 1994)

Merely claiming <u>non</u>functional descriptive material, i.e., abstract ideas, stored on

a computer-readable medium, in a computer, or on an electromagnetic carrier signal,

does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that

the claims for an algorithm in *Benson* were unpatentable as abstract ideas because

"[t]he sole practical application of the algorithm was in connection with the programming

of a general purpose computer."). Note specification, Page19, Lines 16-24 which

indicate that the described system may be implemented purely as software.


### Claim Rejections - 35 USC § 103

5.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.      Claims 1-40 and 42 rejected under 35 U.S.C. 103(a) as being unpatentable over

Lawrence in view of Pazzani.


.As per Claim 1, Lawrence discloses a system that refines a general-purpose

search engine (i.e. *"The Inquirus 2 project at NEC Research Institute [29, 30] requests context*

*information, currently in the form of a category of information desired. In addition to providing a keyword*

*query, users choose a category such as "personal homepages", "research papers", or "general*

*introductory information". Inquirus 2 is a metasearch engine that operates as a layer above regular search*

*engines. Inquirus 2 takes a query plus context information and attempts to use the context information to*

*find relevant documents via regular web search engines. The context information is used to select the*

*search engines to send queries to, to modify queries, and to select the ordering policy."* The preceding

text excerpt clearly indicates that a general purpose search engine (e.g. regular web search engine) is

refined using context information.) (Page 1, Column 2, Paragraph 3), comprising: a component that

identifies an entry point that includes a link utilized to access the general-purpose

search engine (i.e. *"The Inquirus 2 project at NEC Research Institute [29, 30] requests context*

*information, currently in the form of a category of information desired. In addition to providing a keyword*

*query, users choose a category such as "personal homepages", "research papers", or "general*

*introductory information". Inquirus 2 is a metasearch engine that operates as a layer above regular search*

*engines. Inquirus 2 takes a query plus context information and attempts to use the context information to*

*find relevant documents via regular web search engines. The context information is used to select the*

*search engines to send queries to, to modify queries, and to select the ordering policy."* The preceding

text excerpt clearly indicates that the entry point, in this case the Inquirus 2 metasearch engine is

identified and comprises a search link that is used to access a general purpose/regular search engine.)

(Page 1, Column 2, Paragraph 3).

Lawrence fails to disclose a tuning component that receives search query results

of the general-purpose search engine and filters the search results based at least on

criteria associated with the entry point through which the general-purpose search

engine was accessed, the criteria comprises at least a first set of data categorized as

relevant to a user's context and a second set of data categorized as non-relevant to the

user's context, each search result is compared with both the first set of data and the

second set of data to determine a relevance of the search result.

Pazzani discloses a tuning component that receives search query results of the

general-purpose search engine and filters the search results based at least on criteria

associated with the entry point through which the general-purpose search engine was

accessed (i.e. *Page 313, Paragraph 1; Page 315, Paragraph 2; Page 316, Paragraph 1 which indicate*

*that the based on the entry point (e.g. user profile and subject) the search engine results are filtered for relevancy.*), the criteria comprises at least a first set of data categorized as relevant to a user's context (i.e. *Page 316, Paragraph 2 which indicates a positive set of example and a negative set of examples.*) and a second set of data categorized as non-relevant to the user's context (i.e. *Page 316, Paragraph 2 which indicates a positive set of example and a negative set of examples*), each search result is compared with both the first set of data and the second set of data to determine a relevance of the search result (i.e. *Page 317, Paragraph 2; Page 318, Paragraph 2; Page 319, Paragraph 1 which indicate that both the positive and negative sets are used to create data which is used to compare and filter search engine results for relevancy*).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include a tuning component that receives search query results of the general-purpose search engine and filters the search results based at least on criteria associated with the entry point through which the general-purpose search engine was accessed, the criteria comprises at least a first set of data categorized as relevant to a user's context and a second set of data categorized as non-relevant to the user's context, each search result is compared with both the first set of data and the second set of data to determine a relevance of the search result with the motivation of learning and revising user profiles that can determine which World Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).

As per Claim 2, Lawrence fails to disclose that the criteria comprising one or more of a document property, a context parameter, and a configuration.

Pazzani discloses that the criteria comprising one or more of a document property, a context parameter, and a configuration (i.e. *Page 316, Paragraph 2 indicates that the criteria can be document properties (e.g. words in/on the page).*).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include that the criteria comprising one or more of a document property, a context parameter, and a configuration with the motivation of learning and revising user profiles that can determine which World Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).

Claim 3 holds no patentable weight due to the fact that Claim 2 explicitly states that the criteria may be something other that a document property. In this case it can be stated that one of the alternatives is chosen to fulfill the limitation of claim 2, thus making the details of the document property irrelevant.

Claim 4 holds no patentable weight due to the fact that Claim 2 explicitly states that the criteria may be something other that a context parameter. In this case it can be stated that one of the alternatives is chosen to fulfill the limitation of claim 2, thus making the details of the context parameter irrelevant.

As per Claim 5, Lawrence fails to disclose the tuning component is provided with training data to learn what properties of a document are indicative of the document being relevant to a user executing a search query from the entry point.

Pazzani discloses the tuning component is provided with training data to learn what properties of a document are indicative of the document being relevant to a user executing a search query from the entry point (i.e. *Page 318, Paragraph 2 indicates the use of training data (e.g. a training set).*).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include the tuning component is provided with training data to learn what properties of a document are indicative of the document being relevant to a user executing a search query from the entry point with the motivation of learning and revising user profiles that can determine which World Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).

As per Claim 6, Lawrence fails to disclose the tuning component configured to differentiate between a query result that is relevant to a search query context for a group of users and a query result that is non-relevant to the search query context for the group of users.

Pazzani discloses the tuning component configured to differentiate between a query result that is relevant to a search query context for a group of users and a query result that is non-relevant to the search query context for the group of users (i.e. *Section*

*2.3 of Page 317; Page 318 Paragraph 2 indicate that the component differentiates between relevant and*

*non-relevant results for a group of users).*

It would have been obvious to one skilled in the art at the time of Applicants

invention to modify the teachings of Lawrence with the teachings of Pazzani to include

the tuning component configured to differentiate between a query result that is relevant

to a search query context for a group of users and a query result that is non-relevant to

the search query context for the group of users with the motivation of learning and

revising user profiles that can determine which World Wide Web sites on a given topic

would be interesting to a user (Pazzani, Abstract).


As per Claim 7, Lawrence fails to disclose the tuning component employs

statistical analysis in connection with filtering the search query results.

Pazzani discloses the tuning component employs statistical analysis in

connection with filtering the search query results (i.e. *Page 319, Paragraph 2 indicates that*

*statistical analysis (e.g. probability calculations) are employed in connection with the filtering.*).

It would have been obvious to one skilled in the art at the time of Applicants

invention to modify the teachings of Lawrence with the teachings of Pazzani to include

the tuning component employs statistical analysis in connection with filtering the search

query results with the motivation of learning and revising user profiles that can

determine which World Wide Web sites on a given topic would be interesting to a user

(Pazzani, Abstract).

As per Claim 8, Lawrence fails to disclose the tuning component generates one or more context parameters for a received query result, and compares the generated context parameters with a relevant context parameter and a non-relevant context parameter to determine whether the query result is relevant.

Pazzani discloses the tuning component generates one or more context parameters for a received query result, and compares the generated context parameters with a relevant context parameter and a non-relevant context parameter to determine whether the query result is relevant (i.e. *Page 318, Paragraph 2 indicates that the generated context parameters (e.g. parsed important words) are compared to the context parameters of the relevant and non-relevant data sets.*).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include the tuning component generates one or more context parameters for a received query result, and compares the generated context parameters with a relevant context parameter and a non-relevant context parameter to determine whether the query result is relevant with the motivation of learning and revising user profiles that can determine which World Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).


As per Claim 9, Lawrence fails to disclose the tuning component further ranks the query results.

Pazzani discloses the tuning component further ranks the query results (i.e. *Page 319, Paragraph 2 which indicates that the classifier can be used to rank order pages.*).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include the tuning component further ranks the query results with the motivation of learning and revising user profiles that can determine which World Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).

As per Claim 10, Lawrence fails to disclose the ranking determined by the degree of relevance of the query result to the relevant data set and the non-relevant data set, the relevance is determined via one of a similarity measure and a confidence interval.

Pazzani discloses the ranking determined by the degree of relevance of the query result to the relevant data set and the non-relevant data set, the relevance is determined via one of a similarity measure and a confidence interval (i.e. *Page 319, Paragraphs 1 and 2 which indicates that the classifier can be used to rank order pages. Note that the classifier compares the query results to the relevant and non-relevant data sets.*).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include the ranking determined by the degree of relevance of the query result to the relevant data set and the non-relevant data set, the relevance is determined via one of a similarity measure and a confidence interval with the motivation of learning and revising

user profiles that can determine which World Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).

As per Claim 11, Lawrence fails to disclose the ranking order comprising one of ascending and descending, from the most relevant result to the least relevant result.

Pazzani discloses the ranking order comprising one of ascending and descending, from the most relevant result to the least relevant result (i.e. *Page 319, Paragraph 2 which indicates that the classifier can be used to rank order pages. Note that the typical ordering for a set of ranked items is from first (e.g. most relevant) to last (e.g. least relevant))*.

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include the ranking order comprising one of ascending and descending, from the most relevant result to the least relevant result with the motivation of learning and revising user profiles that can determine which World Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).

As per Claim 12, Lawrence fails to disclose the tuning component configured for a plurality of entry points associated with one or more groups of users.

Pazzani discloses the tuning component configured for a plurality of entry points associated with one or more groups of users (i.e. *See Figure 3 and Page 314, Paragraph 2 which indicates that several user profiles (e.g. entry points may exis)t.)*.

It would have been obvious to one skilled in the art at the time of Applicants

invention to modify the teachings of Lawrence with the teachings of Pazzani to include

the tuning component configured for a plurality of entry points associated with one or

more groups of users with the motivation of learning and revising user profiles that can

determine which World Wide Web sites on a given topic would be interesting to a user

(Pazzani, Abstract).


As per Claim 13, Lawrence teaches a system that tunes a general-purpose

search engine, (i.e. *"The Inquirus 2 project at NEC Research Institute [29, 30] requests context*

*information, currently in the form of a category of information desired. In addition to providing a keyword*

*query, users choose a category such as "personal homepages", "research papers", or "general*

*introductory information". Inquirus 2 is a metasearch engine that operates as a layer above regular search*

*engines. Inquirus 2 takes a query plus context information, and attempts to use the context information to*

*find relevant documents via regular web search engines. The context information is used to select the*

*search engines to send queries to, to modify queries, and to select the ordering policy."* The preceding

text excerpt clearly indicates that a general purpose search engine (e.g. regular web search engine) is

refined using context information.) (Page 1, Column 2, Paragraph 3), and a component that

identifies an entry point that includes a link utilized to access the general-purpose

search engine (i.e. *"The Inquirus 2 project at NEC Research Institute [29, 30] requests context*

*information, currently in the form of a category of information desired. In addition to providing a keyword*

*query, users choose a category such as "personal homepages", "research papers", or "general*

*introductory information". Inquirus 2 is a metasearch engine that operates as a layer above regular search*

*engines. Inquirus 2 takes a query plus context information, and attempts to use the context information to*

*find relevant documents via regular web search engines. The context information is used to select the*

search engines to send queries to, to modify queries, and to select the ordering policy." The preceding text excerpt clearly indicates that the entry point, in this case the Inquirus 2 metasearch engine is identified and comprises a search link that is used to access a general purpose/regular search engine.) (Page 1, Column 2, Paragraph 3).

Lawrence fails to disclose a filter component that receives search query results of a general-purpose search engine and parses relevant and non-relevant results based on training data associated with the entry point the training data comprises a first set of data categorized as relevant to a search context of a user for the entry point and a second set of data categorized as non-relevant to the search context of the user, each search query result is compared with the first set of data to determine a degree of relevance of the search result, and each search result is compared with the second set of data to determine a degree of non-relevance of the search result; and a ranking component that sorts the filtered results in accordance with the training data for presentation to a user.

Pazzani discloses a filter component that receives search query results of a general-purpose search engine and parses relevant and non-relevant results based on training data associated with the entry point (i.e. *Page 313, Paragraph 1; Page 315, Paragraph 2; Page 316, Paragraph 1 which indicate that the based on the entry point (e.g. user profile and subject) the search engine results are filtered for relevancy.*), the training data comprises a first set of data categorized as relevant to a search context of a user for the entry point (i.e. *Page 316, Paragraph 2 which indicates a positive set of example and a negative set of examples.*) and a second set of data categorized as non-relevant to the search context of the user (i.e. *Page 316, Paragraph 2 which indicates a positive set of example and a negative set of examples*), each

search query result is compared with the first set of data to determine a degree of relevance of the search result, and each search result is compared with the second set of data to determine a degree of non-relevance of the search result (i.e. *Page 317, Paragraph 2; Page 318, Paragraph 2; Page 319, Paragraph 1 which indicate that both the positive and negative sets are used to create data which is used to compare and filter search engine results for relevancy*); and a ranking component that sorts the filtered results in accordance with the training data for presentation to a user (i.e. *Page 319, Paragraph 2 which indicates that the classifier can be used to rank order pages.*).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include a filter component that receives search query results of a general-purpose search engine and parses relevant and non-relevant results based on training data associated with the entry point the training data comprises a first set of data categorized as relevant to a search context of a user for the entry point and a second set of data categorized as non-relevant to the search context of the user, each search query result is compared with the first set of data to determine a degree of relevance of the search result, and each search result is compared with the second set of data to determine a degree of non-relevance of the search result; and a ranking component that sorts the filtered results in accordance with the training data for presentation to a user with the motivation of learning and revising user profiles that can determine which World Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).

As per Claim 14 Lawrence fails to disclose that the criteria comprising one or more of a document property, a context parameter, and a configuration associated with the entry point.

Pazzani discloses that the criteria comprising one or more of a document property, a context parameter, and a configuration associated with the entry point (i.e. Page 316, Paragraph 2 indicates that the criteria can be document properties (e.g. words inonthe page).).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include that the criteria comprising one or more of a document property, a context parameter, and a configuration associated with the entry point with the motivation of learning and revising user profiles that can determine which World Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).

As per Claim 15, Lawrence fails to disclose the filter component trained to differentiate between a relevant and a non-relevant result via the training data.

Pazzani discloses the filter component trained to differentiate between a relevant and a non-relevant result via the training data (i.e. Page 318, Paragraph 2 which discloses that the raining data is used to evaluate the rated pages.).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include the filter component trained to differentiate between a relevant and a non-relevant result via the training data with the motivation of learning and revising user profiles that can

determine which World Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).

As per Claim 16, Lawrence discloses the second set of data categorized as non-relevant comprising random data unrelated to the search context of the user for the entry point.

Pazzani discloses the second set of data categorized as non-relevant comprising random data unrelated to the search context of the user for the entry point (i.e. Page 318, Paragraph 2 which that the training data is randomly selected.).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include the second set of data categorized as non-relevant comprising random data unrelated to the search context of the user for the entry point with the motivation of learning and revising user profiles that can determine which World Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).

As per Claim 17, Lawrence fails to disclose the filter component employs statistical analysis to determine whether a result is relevant or non-relevant to the entry point.

Pazzani discloses the filter component employs statistical analysis to determine whether a result is relevant or non-relevant to the entry point (i.e. *Page 319, Paragraph 2*

*which indicates that the classifier can be used to rank order pages by returning a probability (e.g. a statistical analysis).).*

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include the filter component employs statistical analysis to determine whether a result is relevant or non-relevant to the entry point with the motivation of learning and revising user profiles that can determine which World Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).

As per Claim 18, Lawrence fails to disclose the ranking component employs a technique to determine the degree of relevance of the query results with respect to the relevant data set and the non-relevant data set.

Pazzani discloses the ranking component employs a technique to determine the degree of relevance of the query results with respect to the relevant data set and the non-relevant data set (i.e. *Page 319, Paragraph 2 which indicates that the classifier can be used to rank order pages by returning a probability (e.g. a probability technique).).*

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include the ranking component employs a technique to determine the degree of relevance of the query results with respect to the relevant data set and the non-relevant data set with the motivation of learning and revising user profiles that can determine which World Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).

As per Claim 19, Lawrence fails to disclose the technique comprising one of a

similarity measure and a confidence interval.

Pazzani discloses the technique comprising one of a similarity measure and a

confidence interval (i.e. *Page 319, Paragraph 2 which indicates that the classifier can be used to rank*

*order pages using a proability and a similarity measure.*).

It would have been obvious to one skilled in the art at the time of Applicants

invention to modify the teachings of Lawrence with the teachings of Pazzani to include

the technique comprising one of a similarity measure and a confidence interval with the

motivation of learning and revising user profiles that can determine which World Wide

Web sites on a given topic would be interesting to a user (Pazzani, Abstract).


As per Claim 20, Lawrence fails to disclose the ranking order comprising one of

ascending and descending, from the most relevant result to the least relevant result.

Pazzani discloses the ranking order comprising one of ascending and

descending, from the most relevant result to the least relevant result (i.e. *Page 319,*

*Paragraph 2 which indicates that the classifier can be used to rank order pages. Note that the typical*

*ordering for a set of ranked items is from first (e.g. most relevant) to last (e.g. least relevant)*).

It would have been obvious to one skilled in the art at the time of Applicants

invention to modify the teachings of Lawrence with the teachings of Pazzani to include

the ranking order comprising one of ascending and descending, from the most relevant

result to the least relevant result with the motivation of learning and revising user

profiles that can determine which World Wide Web sites on a given topic would be

interesting to a user (Pazzani, Abstract).


As per Claim 21, Lawrence fails to disclose that the ranking is performed on the

relevant query results, the non-relevant results are discarded.

Pazzani discloses that the ranking is performed on the relevant query results, the

non-relevant results are discarded (i.e. *Page 319, Paragraph 2 which indicates that the classifier*

*can be used to rank order pages. Note that it is common for only relevant pages to be displayed).*).

It would have been obvious to one skilled in the art at the time of Applicants

invention to modify the teachings of Lawrence with the teachings of Pazzani to include

that the ranking is performed on the relevant query results, the non-relevant results are

discarded with the motivation of learning and revising user profiles that can determine

which World Wide Web sites on a given topic would be interesting to a user (Pazzani,

Abstract).


As per Claim 22, Lawrence discloses a method to filter and rank general-purpose

search engine results based on criteria associated with an entry point (i.e. *"The Inquirus 2*

*project at NEC Research Institute [29, 30] requests context information, currently in the form of a category*

*of information desired. In addition to providing a keyword query, users choose a category such as*

*"personal homepages", "research papers", or "general introductory information". Inquirus 2 is a*

*metasearch engine that operates as a layer above regular search engines. Inquirus 2 takes a query plus*

*context information, and attempts to use the context information to find relevant documents via regular*

*web search engines. The context information is used to select the search engines to send queries to, to*

*modify queries, and to select the ordering policy.* " The preceding text excerpt clearly indicates that a general purpose search engine (e.g. regular web search engine) is refined using context information.) (Page 1, Column 2, Paragraph 3), comprising: executing a query search with the general-purpose search engine accessed through a link associated with the entry point (i.e. *"The Inquirus 2 project at NEC Research Institute [29, 30] requests context information, currently in the form of a category of information desired. In addition to providing a keyword query, users choose a category such as "personal homepages", "research papers", or "general introductory information". Inquirus 2 is a metasearch engine that operates as a layer above regular search engines. Inquirus 2 takes a query plus context information, and attempts to use the context information to find relevant documents via regular web search engines. The context information is used to select the search engines to send queries to, to modify queries, and to select the ordering policy.*" The preceding text excerpt clearly indicates that the entry point, in this case the Inquirus 2 metasearch engine is identified and comprises a search link that is used to access a general purpose/regular search engine.) (Page 1, Column 2, Paragraph 3).

Lawrence fails to disclose filtering the general-purpose search engine results by tuning the general-purpose search engine based on a set of training data associated with the entry point employed to access the general purpose search engine (i.e. *Page 313, Paragraph 1; Page 315, Paragraph 2; Page 316, Paragraph 1 which indicate that the based on the entry point (e.g. user profile and subject) the search engine results are filtered for relevancy.*); and ranking the filtered general-purpose search engine results (i.e. *Page 319, Paragraph 2 which indicates that the classifier can be used to rank order pages.*); storing a query result selected by a user in a first data set categorized as relevant (See Page 324, Paragraph 2 which indicates that the user results are stored as revised training data.); storing at least one unselected query result that is ranked higher than the selected query result in a second data set categorized as non-relevant (See Page 319, Paragraph 2 which indicates that a sight which is calculated to be interesting

may be rated as uninteresting (e.g. unselected) by the user, and Page 324, Paragraph 2 which indicates that the user results are stored as revised training data.); and including the first data set and second data set in the set of training data associated with the entry point employed to access the general purpose search engine (See Page 324, Paragraph 2 which indicates that the user results are stored as revised training data.).

Pazzani discloses filtering the general-purpose search engine results by tuning the general-purpose search engine based on a set of training data associated with the entry point employed to access the general purpose search engine; and ranking the filtered general-purpose search engine results; storing a query result selected by a user in a first data set categorized as relevant; storing at least one unselected query result that is ranked higher than the selected query result in a second data set categorized as non-relevant; and including the first data set and second data set in the set of training data associated with the entry point employed to access the general purpose search engine

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include disclose filtering the general-purpose search engine results by tuning the general-purpose search engine based on a set of training data associated with the entry point employed to access the general purpose search engine; and ranking the filtered general-purpose search engine results; storing a query result selected by a user in a first data set categorized as relevant; storing at least one unselected query result that is ranked higher than the selected query result in a second data set categorized as non-

relevant; and including the first data set and second data set in the set of training data

associated with the entry point employed to access the general purpose search engine

with the motivation of learning and revising user profiles that can determine which World

Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).


As per Claim 23, Lawrence fails to disclose further employing a statistical

hypothesis to determine whether a result is relevant or non-relevant to a search context

of the entry point.

Pazzani discloses Lawrence fails to disclose further employing a statistical

hypothesis to determine whether a result is relevant or non-relevant to a search context

of the entry point (See Page 317, Paragraph 2 which indicates that a statistical hypothesis (e.g.

conversion to positive and negative feature vectors) is used to determine whether a result is relevant or

non-relevant.)

It would have been obvious to one skilled in the art at the time of Applicants

invention to modify the teachings of Lawrence with the teachings of Pazzani to include

further employing a statistical hypothesis to determine whether a result is relevant or

non-relevant to a search context of the entry point with the motivation of learning and

revising user profiles that can determine which World Wide Web sites on a given topic

would be interesting to a user (Pazzani, Abstract).


As per Claim 24, Lawrence fails to disclose the statistical hypothesis employing a

threshold in connection with a probability distribution for relevant data and a probability

distribution for non-relevant data, respective word probabilities are generated for the search query results and compared to the threshold, the probability distribution for relevant data and the probability distribution for non-relevant data to determine whether the results are relevant or non-relevant.

Pazzani discloses the statistical hypothesis employing a threshold in connection with a probability distribution for relevant data and a probability distribution for non-relevant data, respective word probabilities are generated for the search query results and compared to the threshold, the probability distribution for relevant data and the probability distribution for non-relevant data to determine whether the results are relevant or non-relevant (See page 319, Paragraph 2, which indicates that a statistical probability hypothesis is employed to determine relevance. Note that there must exist some threshold which indicates the separation between relevance and non-relevance.).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include the statistical hypothesis employing a threshold in connection with a probability distribution for relevant data and a probability distribution for non-relevant data, respective word probabilities are generated for the search query results and compared to the threshold, the probability distribution for relevant data and the probability distribution for non-relevant data to determine whether the results are relevant or non-relevant with the motivation of learning and revising user profiles that can determine which World Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).

As per Claim 25, Lawrence fails to disclose the threshold employed to bias the decision to mitigate one of a result being deemed non-relevant when the result is relevant and a result being deemed relevant when the result is non-relevant.

Pazzani discloses the threshold employed to bias the decision to mitigate one of a result being deemed non-relevant when the result is relevant and a result being deemed relevant when the result is non-relevant (See page 319, Paragraph 2, which indicates that a statistical probability hypothesis is employed to determine relevance. Note that there must exist some threshold which indicates the separation between relevance and non-relevance.).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include the threshold employed to bias the decision to mitigate one of a result being deemed non-relevant when the result is relevant and a result being deemed relevant when the result is non-relevant with the motivation of learning and revising user profiles that can determine which World Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).

As per Claim 26, Lawrence fails to disclose further employing a probability distribution analysis or machine learning in connection with the filtering and ranking, wherein suitable probability distributions include a Bernoulli, a binomial, a Pascal, a Poisson, an arcsine, a beta, a Cauchy, a chi-square with N degrees of freedom, an Erlang, a uniform, an exponential, a gamma, a Gaussian-univariate, a Gaussian-

bivariate, a Laplace, a log-normal, a rice, a Weibull and a Rayleigh distribution, and the machine learning can classify based on one or more of a word occurrence, a distribution, a page layout, an inlink, and an outlink.

Pazzani discloses further employing a probability distribution analysis or machine learning in connection with the filtering and ranking, wherein suitable probability distributions include a Bernoulli, a binomial, a Pascal, a Poisson, an arcsine, a beta, a Cauchy, a chi-square with N degrees of freedom, an Erlang, a uniform, an exponential, a gamma, a Gaussian-univariate, a Gaussian-bivariate, a Laplace, a log-normal, a rice, a Weibull and a Rayleigh distribution (see Page 319, Paragraph 2, which indicates the use of a unifirom probability distribution.), and the machine learning can classify based on one or more of a word occurrence, a distribution, a page layout, an inlink, and an outlink (See Page 317, Paragraphs 2-4 Page which indicate the use of word occurrence.).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include further employing a probability distribution analysis or machine learning in connection with the filtering and ranking, wherein suitable probability distributions include a Bernoulli, a binomial, a Pascal, a Poisson, an arcsine, a beta, a Cauchy, a chi-square with N degrees of freedom, an Erlang, a uniform, an exponential, a gamma, a Gaussian-univariate, a Gaussian-bivariate, a Laplace, a log-normal, a rice, a Weibull and a Rayleigh distribution, and the machine learning can classify based on one or more of a word occurrence, a distribution, a page layout, an inlink, and an outlink with

the motivation of learning and revising user profiles that can determine which World

Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).


As per Claim 27, Lawrence fails to disclose employing a statistical analysis to

rank search query results.

Pazzani discloses employing a statistical analysis to rank search query results

(i.e. *Page 319, Paragraph 2 which indicates that the classifier can be used to rank order pages by*

*returning a probability (e.g. a statistical analysis).*).

It would have been obvious to one skilled in the art at the time of Applicants

invention to modify the teachings of Lawrence with the teachings of Pazzani to include

employing a statistical analysis to rank search query results with the motivation of

learning and revising user profiles that can determine which World Wide Web sites on a

given topic would be interesting to a user (Pazzani, Abstract).


As per Claim 28, Lawrence fails to disclose the ranking comprising one of

generating word probabilities and employing a confidence interval to determine

relevance, and generating a similarity measure comprising one of a cosine distance, the

Jaccard coefficient, an entropy-based measure, a divergence measure and/or a relative

separation measure to determine similarity.

Pazzani discloses the ranking comprising one of generating word probabilities

and employing a confidence interval to determine relevance (See Page 316, Paragraphs 2-3

which indicate the use of a confidence interval to determine applicable words and word probabilities.),

and generating a similarity measure comprising one of a cosine distance, the Jaccard

coefficient, an entropy-based measure, a divergence measure and/or a relative

separation measure to determine similarity (See Page 319 which indicates the use of a

separation measure (e.g. probability scale) in the ranking.).

It would have been obvious to one skilled in the art at the time of Applicants

invention to modify the teachings of Lawrence with the teachings of Pazzani to include

the ranking comprising one of generating word probabilities and employing a confidence

interval to determine relevance, and generating a similarity measure comprising one of

a cosine distance, the Jaccard coefficient, an entropy-based measure, a divergence

measure and/or a relative separation measure to determine similarity with the

motivation of learning and revising user profiles that can determine which World Wide

Web sites on a given topic would be interesting to a user (Pazzani, Abstract).


As per Claim 29, Lawrence discloses a method to customize a general-purpose

search engine to improve context search query results (i.e. *"The Inquirus 2 project at NEC*

*Research Institute [29, 30] requests context information, currently in the form of a category of information*

*desired. In addition to providing a keyword query, users choose a category such as "personal*

*homepages", "research papers", or "general introductory information". Inquirus 2 is a metasearch engine*

*that operates as a layer above regular search engines. Inquirus 2 takes a query plus context information,*

*and attempts to use the context information to find relevant documents via regular web search engines.*

*The context information is used to select the search engines to send queries to, to modify queries, and to*

*select the ordering policy."* The preceding text excerpt clearly indicates that a general purpose search

engine (e.g. regular web search engine) is refined using context information.),, comprising: tuning a

general-purpose search engine for an entry point by employing a method, the entry

point providing a link employed to access the general-purpose search engine (i.e. *"The*

*Inquirus 2 project at NEC Research Institute [29, 30] requests context information, currently in the form of*

*a category of information desired. In addition to providing a keyword query, users choose a category such*

*as "personal homepages", "research papers", or "general introductory information". Inquirus 2 is a*

*metasearch engine that operates as a layer above regular search engines. Inquirus 2 takes a query plus*

*context information, and attempts to use the context information to find relevant documents via regular*

*web search engines. The context information is used to select the search engines to send queries to, to*

*modify queries, and to select the ordering policy."* The preceding text excerpt clearly indicates that the

entry point, in this case the Inquirus 2 metasearch engine is identified and comprises a search link that is

used to access a general purpose/regular search engine.) (Page 1, Column 2, Paragraph 3)further

comprising:

Lawrence fails to disclose providing a first set of relevant data categorized as

relevant that is used by a component to discern query results relevant to a search

context of a user employing the entry point (i.e. *Page 316, Paragraph 2 which indicates a positive*

*set of example and a negative set of examples.*); providing a second set of non data categorized

as non-relevant that is used by the component to discern query results unrelated to the

search context (i.e. *Page 316, Paragraph 2 which indicates a positive set of example and a negative*

*set of examples.*), the first set of relevant data and the second set of non data are manually

provided (see Page 314, Paragraphs 4-5 which indicate that the data may be manually entered.); and

determining whether a query result is relevant or non-relevant to the search context

based on the first set of relevant data and the second set of non-relevant data, each

query result is compared with both the first set of data and second set of data to

determine the relevance of the query result (i.e. *Page 317, Paragraph 2; Page 318, Paragraph 2; Page 319, Paragraph 1 which indicate that both the positive and negative sets are used to create data which is used to compare and filter search engine results for relevancy*)..

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include providing a first set of relevant data categorized as relevant that is used by a component to discern query results relevant to a search context of a user employing the entry point; providing a second set of non data categorized as non-relevant that is used by the component to discern query results unrelated to the search context, the first set of relevant data and the second set of non data are manually provided; and determining whether a query result is relevant or non-relevant to the search context based on the first set of relevant data and the second set of non-relevant data, each query result is compared with both the first set of data and second set of data to determine the relevance of the query result with the motivation of learning and revising user profiles that can determine which World Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).

As per Claim 30, Lawrence fails to disclose the first set of relevant data categorized as relevant comprising data associated with the search context of the user for the entry point.

Pazzani discloses the first set of relevant data categorized as relevant comprising data associated with the search context of the user for the entry point (See

Page 316, Paragraph 2 which indicates that the set of relevant data is derived from data which is

associated with the context of the entry point (e.g. user profile).).

It would have been obvious to one skilled in the art at the time of Applicants

invention to modify the teachings of Lawrence with the teachings of Pazzani to include

the first set of relevant data categorized as relevant comprising data associated with the

search context of the user for the entry point with the motivation of learning and revising

user profiles that can determine which World Wide Web sites on a given topic would be

interesting to a user (Pazzani, Abstract).


As per Claim 31, Lawrence discloses the second set of data categorized as non-

relevant comprising random data unrelated to the search context of the user for the

entry point.

Pazzani discloses the second set of data categorized as non-relevant comprising

random data unrelated to the search context of the user for the entry point (i.e. Page 318,

Paragraph 2 which that the training data is randomly selected and Page 316, Paragraph 2 which indicates

that the set of non-relevant data (e.g. negative examples) are derived from information the user is not

interested in (e.g. unrelated to the entry point).).

It would have been obvious to one skilled in the art at the time of Applicants

invention to modify the teachings of Lawrence with the teachings of Pazzani to include

the second set of data categorized as non-relevant comprising random data unrelated

to the search context of the user for the entry point with the motivation of learning and

revising user profiles that can determine which World Wide Web sites on a given topic

would be interesting to a user (Pazzani, Abstract).


As per Claim 32, Lawrence fails to disclose providing information to associate

respective query results with the entry point.

Pazzani discloses providing information to associate respective query results

with the entry point (See Page 314, Paragraph 2 which indicates that multiple user profiles (e.g. entry

points) may exist, thus the query results for that profile will be associated with the profile in order to

differentiate between the multiple profiles.).

It would have been obvious to one skilled in the art at the time of Applicants

invention to modify the teachings of Lawrence with the teachings of Pazzani to include

providing information to associate respective query results with the entry point with the

motivation of learning and revising user profiles that can determine which World Wide

Web sites on a given topic would be interesting to a user (Pazzani, Abstract).


As per Claim 33, Lawrence fails to disclose the first set of relevant data

categorized as relevant and the second set of non relevant data categorized as non-

relevant employed to train the component to learn the features that differentiate relevant

data from non-relevant data.

Pazzani discloses the first set of relevant data categorized as relevant and the

second set of non relevant data categorized as non-relevant employed to train the

component to learn the features that differentiate relevant data from non-relevant data

(See page 316, Paragraph 2, which indicates the existence of relevant/important and non-

relevant/unimportant sets used as training data.).

It would have been obvious to one skilled in the art at the time of Applicants

invention to modify the teachings of Lawrence with the teachings of Pazzani to include

the first set of relevant data categorized as relevant and the second set of non relevant

data categorized as non-relevant employed to train the component to learn the features

that differentiate relevant data from non-relevant data with the motivation of learning

and revising user profiles that can determine which World Wide Web sites on a given

topic would be interesting to a user (Pazzani, Abstract).


As per Claim 34, Lawrence discloses a method to automatically customize a

general-purpose search engine for an entry point (i.e. *"The Inquirus 2 project at NEC Research*

*Institute [29, 30] requests context information, currently in the form of a category of information desired. In*

*addition to providing a keyword query, users choose a category such as "personal homepages",*

*"research papers", or "general introductory information". Inquirus 2 is a metasearch engine that operates*

*as a layer above regular search engines. Inquirus 2 takes a query plus context information, and attempts*

*to use the context information to find relevant documents via regular web search engines. The context*

*information is used to select the search engines to send queries to, to modify queries, and to select the*

*ordering policy."* The preceding text excerpt clearly indicates that a general purpose search engine (e.g.

regular web search engine) is refined using context information.), comprising: identifying the entry

point (i.e. *"The Inquirus 2 project at NEC Research Institute [29, 30] requests context information,*

*currently in the form of a category of information desired. In addition to providing a keyword query, users*

*choose a category such as "personal homepages", "research papers", or "general introductory*

*information". Inquirus 2 is a metasearch engine that operates as a layer above regular search engines.*

*Inquirus 2 takes a query plus context information, and attempts to use the context information to find relevant documents via regular web search engines. The context information is used to select the search engines to send queries to, to modify queries, and to select the ordering policy."* The preceding text excerpt clearly indicates that the entry point, in this case the Inquirus 2 metasearch engine is identified and comprises a search link that is used to access a general purpose/regular search engine.) (Page 1, Column 2, Paragraph 3); executing a query search via the entry point that includes a link employed to route to the general-purpose search engine (i.e. *"The Inquirus 2 project at NEC Research Institute [29, 30] requests context information, currently in the form of a category of information desired. In addition to providing a keyword query, users choose a category such as "personal homepages", "research papers", or "general introductory information". Inquirus 2 is a metasearch engine that operates as a layer above regular search engines. Inquirus 2 takes a query plus context information, and attempts to use the context information to find relevant documents via regular web search engines. The context information is used to.select the search engines to send queries to, to modify queries, and to select the ordering policy."* The preceding text excerpt clearly indicates that the entry point, in this case the Inquirus 2 metasearch engine is identified and comprises a search link that is used to access a general purpose/regular search engine.) (Page 1, Column 2, Paragraph 3).

Lawrence fails to disclose recording a query result selected by a user employing the entry point as relevant; recording at least one higher ranked but unselected query result as non- relevant when a lower ranked result is selected by the user; and providing the recorded results to automatically train the filter for the entry point, in order to discriminate between results relevant to a search context of the user for the entry point and results non-relevant to the search context.

Pazzani discloses recording a query result selected by a user employing the entry point as relevant (See Page 324, Paragraph 2 which indicates that the user results are stored

as revised training data.); recording at least one higher ranked but unselected query result

as non-relevant when a lower ranked result is selected by the user (See Page 319,

Paragraph 2 which indicates that a sight which is calculated to be interesting may be rated as

uninteresting (e.g. unselected) by the user, and Page 324, Paragraph 2 which indicates that the user

results are stored as revised training data.); and providing the recorded results to automatically

train the filter for the entry point, in order to discriminate between results relevant to a

search context of the user for the entry point and results non-relevant to the search

context (See Page 324, Paragraph 2 which indicates that the user results are stored as revised training

data.).

It would have been obvious to one skilled in the art at the time of Applicants

invention to modify the teachings of Lawrence with the teachings of Pazzani to include

recording a query result selected by a user employing the entry point as relevant;

recording at least one higher ranked but unselected query result as non- relevant when

a lower ranked result is selected by the user; and providing the recorded results to

automatically train the filter for the entry point, in order to discriminate between results

relevant to a search context of the user for the entry point and results non-relevant to

the search context with the motivation of learning and revising user profiles that can

determine which World Wide Web sites on a given topic would be interesting to a user

(Pazzani, Abstract).


As per Claim 35, Lawrence fails to disclose the set of relevant data comprising

data associated with the search context of the user for the entry point.

Pazzani discloses the set of relevant data comprising data associated with the search context of the user for the entry point (i.e. *Page 316, Paragraph 2 which indicates a positive set of example and a negative set of examples.*).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include the set of relevant data comprising data associated with the search context of the user for the entry point with the motivation of learning and revising user profiles that can determine which World Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).

As per Claim 36, Lawrence fails to disclose the set of non-relevant data comprising data unrelated to the search context of the user for the entry point.

Pazzani discloses the set of non-relevant data comprising data unrelated to the search context of the user for the entry point (i.e. *Page 316, Paragraph 2 which indicates a positive set of example and a negative set of examples.*).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include the set of non-relevant data comprising data unrelated to the search context of the user for the entry point with the motivation of learning and revising user profiles that can determine which World Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).

As per Claim 37, Lawrence fails to disclose providing information to associate respective query results with the entry point.

Pazzani discloses providing information to associate respective query results with the entry point (See Page 314, Paragraph 2 which indicates that multiple user profiles (e.g. entry points) may exist, thus the query results for that profile will be associated with the profile in order to differentiate between the multiple profiles.).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include providing information to associate respective query results with the entry point with the motivation of learning and revising user profiles that can determine which World Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).


As per Claim 38, Lawrence fails to disclose the set of relevant data and the set of non-relevant data employed to train the component to learn the features that differentiate relevant data from non- relevant data.

Pazzani discloses disclose the set of relevant data and the set of non-relevant data employed to train the component to learn the features that differentiate relevant data from non- relevant data (i.e. Page 317, Paragraph 2; Page 318, Paragraph 2; Page 319, Paragraph 1 which indicate that both the positive and negative sets are used to create data which is used to compare and filter search engine results for relevancy).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Pazzani to include

disclose the set of relevant data and the set of non-relevant data employed to train the

component to learn the features that differentiate relevant data from non- relevant data

with the motivation of learning and revising user profiles that can determine which World

Wide Web sites on a given topic would be interesting to a user (Pazzani, Abstract).


As per Claim 39, Lawrence fails to disclose the query results selected via a click

thru technique employing a mouse to select a link associated with the query result by

clicking on the link.

Pazzani discloses the query results selected via a click thru technique employing

a mouse to select a link associated with the query result by clicking on the link (See Page

314, Paragraph 5 which indicates a click-through interface which may be employed in the system.)

It would have been obvious to one skilled in the art at the time of Applicants

invention to modify the teachings of Lawrence with the teachings of Pazzani to include

the query results selected via a click thru technique employing a mouse to select a link

associated with the query result by clicking on the link with the motivation of learning

and revising user profiles that can determine which World Wide Web sites on a given

topic would be interesting to a user (Pazzani, Abstract).


As per Claim 40, Lawrence fails to disclose generating a word probability

distribution for the relevant recorded results and a word probability distribution for the

non- relevant recorded results.

Pazzani discloses generating a word probability distribution for the relevant

recorded results and a word probability distribution for the non-relevant recorded results

(See Page 317, Paragraphs 2-4 Page which indicate the use of a word probability distribution.).

It would have been obvious to one skilled in the art at the time of Applicants

invention to modify the teachings of Lawrence with the teachings of Pazzani to include

generating a word probability distribution for the relevant recorded results and a word

probability distribution for the non- relevant recorded results with the motivation of

learning and revising user profiles that can determine which World Wide Web sites on a

given topic would be interesting to a user (Pazzani, Abstract).

As per Claim 42, Lawrence fails to disclose a computer readable medium storing

computer executable components that tunes a general-purpose search engine to

improve context search query results (i.e. *"The Inquirus 2 project at NEC Research Institute [29,*

*30] requests context information, currently in the form of a category of information desired. In addition to*

*providing a keyword query, users choose a category such as "personal homepages", "research papers",*

*or "general introductory information". Inquirus 2 is a metasearch engine that operates as a layer above*

*regular search engines. Inquirus 2 takes a query plus context information, and attempts to use the context*

*information to find relevant documents via regular web search engines. The context information is used to*

*select the search engines to send queries to, to modify queries, and to select the ordering policy."* The

preceding text excerpt clearly indicates that a general purpose search engine (e.g. regular web search

engine) is refined using context information.), comprising: identifying the entry point (i.e. *"The*

*Inquirus 2 project at NEC Research Institute [29, 30] requests context information, currently in the form of*

*a category of information desired. In addition to providing a keyword query, users choose a category such*

*as "personal homepages", "research papers", or "general introductory information". Inquirus 2 is a*

*metasearch engine that operates as a layer above regular search engines. Inquirus 2 takes a query plus context information, and attempts to use the context information to find relevant documents via regular web search engines. The context information is used to select the search engines to send queries to, to modify queries, and to select the ordering policy."* The preceding text excerpt clearly indicates that the entry point, in this case the Inquirus 2 metasearch engine is identified and comprises a search link that is used to access a general purpose/regular search engine.) (Page 1, Column 2, Paragraph 3),.

comprising: an entry point that provides a link utilized to arrive at the general-purpose search engine (i.e. *"The Inquirus 2 project at NEC Research Institute [29, 30] requests context information, currently in the form of a category of information desired. In addition to providing a keyword query, users choose a category such as "personal homepages", "research papers", or "general introductory information". Inquirus 2 is a metasearch engine that operates as a layer above regular search engines. Inquirus 2 takes a query plus context information, and attempts to use the context information to find relevant documents via regular web search engines. The context information is used to select the search engines to send queries to, to modify queries, and to select the ordering policy."* The preceding text excerpt clearly indicates that the entry point, in this case the Inquirus 2 metasearch engine is identified and comprises a search link that is used to access a general purpose/regular search engine.) (Page 1, Column 2, Paragraph 3).

Lawrence fails to disclose a component that receives search query results of a general-purpose search engine and filters the results based on training data sets associated with the search context of a user depending on the entry point, the training data sets include at least a first category of data explicitly defined to be relevant to the search context and a second category of data explicitly defined to be non-relevant to the search context; and a component that ranks the filtered general-purpose search engine results according to the similarity of the search engine results to the training data sets,

each search result is compared with both the first category of data and the second

category of data.

Pazzani discloses a component that receives search query results of a general-

purpose search engine and filters the results based on training data sets associated

with the search context of a user depending on the entry point (i.e. *Page 317, Paragraph 2;*

*Page 318, Paragraph 2; Page 319, Paragraph 1 which indicate that both the positive and negative sets*

*are used to create data which is used to compare and filter search engine results for relevancy*), the

training data sets include at least a first category of data explicitly defined to be relevant

to the search context and a second category of data explicitly defined to be non-relevant

to the search context (i.e. *Page 316, Paragraph 2 which indicates a positive set of example and a*

*negative set of examples.*); and a component that ranks the filtered general-purpose search

engine results according to the similarity of the search engine results to the training data

sets (i.e. *Page 319, Paragraph 2 which indicates that the classifier can be used to rank order pages.*),

each search result is compared with both the first category of data and the second

category of data (i.e. *Page 317, Paragraph 2; Page 318, Paragraph 2; Page 319, Paragraph 1 which*

*indicate that both the positive and negative sets are used to create data which is used to compare and*

*filter search engine results for relevancy*).

It would have been obvious to one skilled in the art at the time of Applicants

invention to modify the teachings of Lawrence with the teachings of Pazzani to include

recording a query result selected by a user employing the entry point as relevant;

recording at least one higher ranked but unselected query result as non- relevant when

a lower ranked result is selected by the user; and providing the recorded results to

automatically train the filter for the entry point, in order to discriminate between results

relevant to a search context of the user for the entry point and results non-relevant to

the search context with the motivation of learning and revising user profiles that can

determine which World Wide Web sites on a given topic would be interesting to a user

(Pazzani, Abstract).

7.    Claim 43 rejected under 35 U.S.C. 103(a) as being unpatentable over Lawrence

in view of Taguchi as above and in further view of Hansen.

As per Claim 43, Lawrence discloses a system that receives filters and ranks

general-purpose search engine results (i.e. *"The Inquirus 2 project at NEC Research Institute [29,*

*30] requests context information, currently in the form of a category of information desired. In addition to*

*providing a keyword query, users choose a category such as "personal homepages", "research papers",*

*or "general introductory information". Inquirus 2 is a metasearch engine that operates as a layer above*

*regular search engines. Inquirus 2 takes a query plus context information and attempts to use the context*

*information to find relevant documents via regular web search engines. The context information is used to*

*select the search engines to send queries to, to modify queries, and to select the ordering policy."* The

preceding text excerpt clearly indicates that a general purpose search engine (e.g. regular web search

engine) is refined using context information.) (Page 1, Column 2, Paragraph 3), comprising: means

for filtering based on a search context associated with an entry point that includes a link

employed to navigate to the general-purpose search engine (i.e. *"The Inquirus 2 project at*

*NEC Research Institute [29, 30] requests context information, currently in the form of a category of*

*information desired. In addition to providing a keyword query, users choose a category such as "personal*

*homepages", "research papers", or "general introductory information". Inquirus 2 is a metasearch engine*

*that operates as a layer above regular search engines. Inquirus 2 takes a query plus context information and attempts to use the context information to find relevant documents via regular web search engines. The context information is used to select the search engines to send queries to, to modify queries, and to select the ordering policy."* The preceding text excerpt clearly indicates that based on the entry point, in this case what parameters were given to the entry point, the search query is modified, thus filtering the results of the general purpose search engine based on the entry point. Note that the general purpose search engine is accessed by submitting the query, along with the context information to the metasearch engine (e.g. search link).) (Page 1, Column 2, Paragraph 3).

Lawrence fails to disclose means for filtering general-purpose search engine results by determining whether a query result is relevant to a search context of a group of users and means for ranking the filtered general-purpose search engine results based on a relevance of the general-purpose search engine results to the search context of the group of users and the entry point.

Taguchi discloses means for filtering general-purpose search engine results by determining whether a query result is relevant to a search context of a group of users (i.e. *"In this state of things, it is assumed that a user supplies keyword "(Title=Proposal)&(Body=Internet)" to the text searching engine 1c. The text searching engine 1c searches the index storing section 1b for an index which includes the input keyword in each of its title and body, and supplies the search result to the access right filter 1d. The access rights filter 1d inputs user information (user ID, for example) necessary for specifying a user. Then the access right filter 1d specifies the original document in the document store 2 corresponding to an index given as the search result and checks by comparing its right information and the user information whether or not the user has access rights for the document. If the user has access rights, then the access right filter 1d outputs the title of the document as the search result."* The preceding text excerpt clearly indicates that content which was acquired before the search query (e.g. access rights information/criteria associated with an entry point) and from a specific source. Note that this shows that

the method of passing information from an entry point as disclosed in Lawrence may be applied to the filtering of search results as well as modifying queries.) (Column 2, Lines 1-14).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Taguchi to include a means for filtering general-purpose search engine results by determining whether a query result is relevant to a search context of a group of users with the motivation of filtering documents to include only those in which a user is interested (e.g. in this specific case, documents which the user is permitted to view) (Taguchi, Column 1, Lines 49-54).

Hansen discloses means for ranking the filtered general-purpose search engine results based on a relevance of the general-purpose search engine results to the search context of the group of users (i.e. *"These triples can be used by a search engine to improve page rankings. When a new user initiates a search, we present them with a display of query groups most related to their search terms. For each such group, we select the most relevant URLs arranged in a display like that in Figure 4."* The preceding text excerpt clearly indicates that the general-purpose search engine results are ranked based on relevance to the search terms/context of the users.) (Page 138, Column 1, Paragraph 2).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Lawrence with the teachings of Hansen to include means for ranking the general-purpose search engine results based on a relevance of the general-purpose search engine results to the search context of the group of users with the motivation of using navigation (e.g. context) data to improve web searches (Hansen, Abstract).

## *Points of Contact*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Hicks whose telephone number is (571) 272-2670. The examiner can normally be reached on Monday - Friday 10:00a - 7:00p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on (571) 272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Michael J Hicks
Art Unit 2165
Phone: (571) 272-2670
Fax: (571) 273-2670

CHRISTIAN CHACE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100